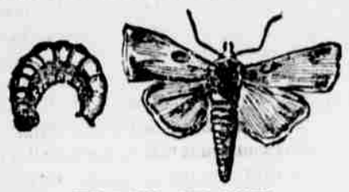
FARM AND GARDEN.

STAPLE CROPS OF THE COUNTRY AND THE AREA THESE OCCUPY.

How to Make a Useful Plank Drag at a Small Cost—All About the Cut Worm and How to Circumvent It—Classification of Fowls.

There is but little land that is free from cut worms, or few crops not subject to their depredations. While cut worms are especially destructive to the corn crops, they also greatly injure root and garden crops. Most farmers here had experience with these pests, which from the time when the earliest shoots begin to appear in the garden and field cause destruction by eating off the tender stalks at the surface of the ground.



CUT WORM AND MOTH.

There seems, however, to exist some confusion in the minds of many concerning these worms, quite different species being often designated under the common name of cut worm. For the benefit of this class of readers are here given illustrations that will make the identification of these pests a simple matter.

Cut worms are the caterpillars of moths belonging to the night flying division, and sometimes called May bettle or June bug. When fully grown the grub or worm is about an inch and a half long, of ash gray color, smooth and greasy in appearance and plump and fat; the back shows numerous fine lines.

The moth lays its eggs in midsummer or early autumn in the ground. The young soon hatch, and feed on grass or weeds until cold weather, when they make their way down into the soil to spend the winter. They do but little injury in the autumn, but as soon as spring opens their attacks become very noticeable. As the parent insects appear to understand the selection of suitable places in which to deposit their eggs, as also to avoid those where their young would starve for food, the surest safeguard against the ravages of these and all other species that deposit their eggs in the ground is to starve them out by thorough cultivation previous to putting in the crop, hence the practice of plowing up in the fall lands that have become infected.

There are many so called remedies for cut worm when at work on growing plants. Some of these doubtless modify somewhat the extent of their ravages, but nothing effective, which is practiced on a large scale, has been introduced. The most effective remedy, perhaps, is the one suggested by Professor Riley. This consists in scattering over a field, fifteen or twenty feet apart, cabbage or turnip leaves, grass or sod, that has been poisoned with Paris green. These leaves or grass, employed as bait for the worms, are dipped into a solution made by stirring a tablespoonful of Paris green into a bucket of water. It is claimed by correspondents who have tried the above that two applications, made at intervals of two or three days, have proved effectual, especially when the applications are made in cloudy weather.

The surer way of fighting these pests is, however, with preventives. The most systematic method is: First, to prevent propagation by making bonfires in the evening during the months of July and August, when the moths appear, and lure them to their own destruction. Then during the autumn and early winter plow up the soil and turn out the pests to the weather and the birds. While this will not prevent destruction to crops this season, it will be of great service another year, and will repay all farmers who try it.

Useful Classification of Fowls.

All of our domestic fowls are useful, but in varying degrees or in different directions. No classification upon their useful qualities can be made which will be complete. The following, however, by The Poultry World, will be of value to many readers:

Egg producers: Leghorns, Hamburgs, Russians, Minorcas, Black Spanish, Polish and Andalusian.

Table fowls: Dorkings, Houdares, La Fleche, Games, Crevecours, Brahmas, Cochins, Langshans.

General utility fowls: Plymouth Rocks, Wyandottes, Javas, Dominiques.

But all such classifications are far from complete, for some of the table fowls are excellent layers and some of the great egg producers are fitted to satisfy the taste of an epicure.

The Area Devoted to Leading Crops.

The total area of cultivated land widens from year to year with new territory, but the comparative area devoted to principal crops, according to The National Statistician, really changes but little. It occasionally occurs that the acreage devoted to some of the principal crops is unavoidably largely augmented at the expense of others, as was the case with oats and corn planted on extensive areas of winter killed wheat, in 1885, but the next season will show the balance again naturally adjusted. The present year has witnessed this forced change, but only to a limited extent.

New Jersey and Pennsylvania put numerous fields of winter killed wheat into corn and oats, while in Ohio the area devoted to the latter grain is much enlarged at the expense of both wheat and clover injured by the winter. The New England states show little variation in the total area. In New York the increased importance of dairying and stock raising is gradually widening the breadth of meadow and pasture land, though there appears no diminution of cultivated area.

Tobacco, says Statistician Dodge, is the only crop the area of which is reduced wherever grown. At ruling prices it is unremunerative in New England and Pennsylvania, and a considerable portion of its area is being devoted to small crops. Maryland, Virginia and North Carolina show a heavy decline, the area in the first state going to grass, and in the others to grass and the spring cereals together. Some counties in these states report that the acreage will fall off 50 per cent., and in some cases even more. The falling off in Tennessee and Kentucky is general, though not so heavy, the area being given to miscellaneous crops.

The southern states show the usual increase in cotton acreage, with perhaps a greater extension of the cereals than usually. In the Carolinas the increase is this year in corn, while in Georgia the area of that cereal is much divided by the poor stand and prospect of oats. Louisiana and Mississippi are raising more oats, and Texas has largely increased her area of corn as well as cotton. Several correspondents in Arkansas remark that planters are finding no money in cotton at six and eight cents per pound and are devoting more room to both corn and oats.

There is but little general change in wheat acreage, the seeding of some areas to grass and other crops in the older states being balanced by fresh lands in others. In the states of the central west it is perhaps narrowed somewhat, while in the northwest and transmississippi states the deficiency is made up. In Iowa and Missouri corn has gained this year at the expense of wheat and in the latter state of meadows injured by the severe winter.

More than the usual attention seems to be devoted to the use of flax, the area being reported as increased in some counties in New York, Michigan and states of the northwest.

The states and territories into which the tide of immigration is steadily pouring show marked increases in the total cultivated area, though the portions devoted to the principal crops are not materially changed.

Rat and Mouse Proof Seed Bags.

A correspondent in Prairie Farmer uses wire netting, such as is employed in the manufacture of window screens, to make bags for seed. These bags are made by folding the edges and hammering a three-eighth inch wide seam down firmly. No sewing is needed. Seeds can be put into these bags while yet moist, if too many are not bunched together, as they will dry as well as on paper. These wire bags are both rat and mouse proof.

A Good Plank Drag.

One of the most valuable implements on a farm, the cost considered, is a good plank drag. It accomplishes more work than either the roller or the harrow can do. The further soil is removed from a virgin state, the greater is the need for thorough pulverization; this is especially true of clay soils, and plank drags are admirable instruments for doing the work. A good time to use a plank drag is as soon after plowing as the soil is dry enough to crumble.

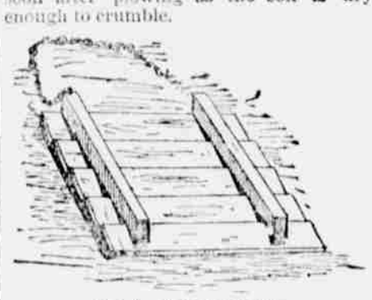


FIG. 1—PLANK DRAGS.

A correspondent in Rural New Yorker gives the following instructions about making drags: A one horse drag made of four two inch planks will be heavy enough. If made of one inch boards weights must be added. For two horses I use four boards one foot wide, two inches thick and ten feet long. When the driver rides, this is heavy enough. When used to cover grass, turnip or flax seeds, it is heavy enough of itself. For four horses, for use on wheat and corn land, five two inch planks, sixteen feet long and one foot wide, will be about right. With one team at each end of this, four acres an hour can be put into the best possible condition for the wheat drill or the corn planter. These drags are made in two ways—by spiking the planks to pieces of four by four inch scantling, as in the first cut, or by bolting the planks together, as in the second cut.

FIG. 2—PLANK DRAGS.

The planks are lapped, as this gives cutting edges to grind up the clods. When not in use, turn the drag edgewise against a tree or on the north side of a fence, where it will be shaded. It is best to have two clevises placed equidistant from the center and about as far apart as half the length of the drag. A chain attached to these, long enough to place the horses some three feet from the drag, will make it run steadier than if the team were hitched to the center.

Farm Items.

The amount of salt used in the prize butter exhibit at the New York dairy fair was surprisingly uniform in all the samples.

The lactorite, a new apparatus for testing milk, particularly with regard to its value for butter, is the invention of De Laval, also the inventor of the centrifugal separator which bears his name, and is designed to be used with the latter.

The Northwestern Miller says that only nine out of twenty-three flour mills are running in and about Minneapolis on account of the scarcity of wheat at points tributary to that market.

Western farmers say that if they apply petroleum to their seed corn it prevents its disturbance by birds and squirrels and does not injure the corn or retard its germination.

Inconvenience is often caused by losing the names of fruit trees in young orchards. A good zinc label is desirable.

An advocate of free access to salt for sheep says they will not overeat, as when salted only occasionally but freely.

Bees give a valuable product and cost little for keeping beyond providing shelter.

Bagging grapes while small as shot is generally conceded to be an excellent plan.

Provide animals in pasture with shade.

The Bravest Man of All.

But the bravest man of all, the one who has the best and most unimpeachable right and claim to courage, is the man who, to shield and protect others, accepts open insult and submits unmurmuringly to open censure, criticism and indignity. This is harder than heading an army, harder than wearing a royal crown, harder than preaching truth and right to a generation of fools. In all my life I have known of but one such man, and though I never have met him I revere him as a god; and yet the world would question my sanity if I wrote his name where it belongs, high up in the list of heroes.—North American Review.

The Babies Were All Right.

"Ten pounds of anise seed," he said to the drug clerk.

"Gracious!" exclaimed the embryo apothecary, "colic at the Foundling asylum?"

"No; fox hunting on Long Island, sir."—New York Mail and Express.

SCIENCE AND PROGRESS.

RESULTS OF PROTECTIVE VACCINATION AGAINST YELLOW FEVER.

Underground Wires in England and Germany—A Simple Preventive Against Fire—How Needles, Steel Pens and Gold Dollars Can be Made to Float.

If a very fine cambric needle is carefully placed upon water it will not sink, although much heavier than an equal mass of water. This is due to the fact, explains La Nature, that the bright surface of the metal is not wet by the water, which is repelled from it by capillary action, the same as the mercury in a barometer is repelled from the sides of the glass tube.

FIG. 1—A SIMPLE SCIENTIFIC EXPERIMENT.

Thus a little depression is formed in the water, as shown in Fig. 2; and the total bulk of water displaced by the needle is equal to that which would fill the depression under the dotted line CD, which would more than equal the weight of the needle, which, therefore, remains on the surface.

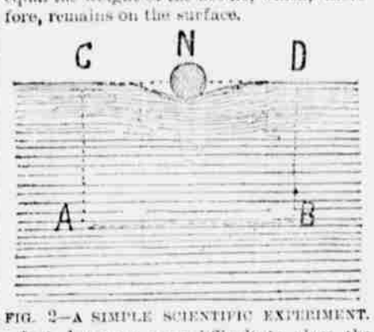


FIG. 2—A SIMPLE SCIENTIFIC EXPERIMENT.

It is, however, very difficult to place the needle on the water so gently that it will not sink; by the method shown in Fig. 1, not only cambric needles, but much larger ones, pieces of copper wire, new steel pens, and even a gold dollar, can be made to float. A piece of blotting paper is placed on the water, and the object carefully placed upon it. In a few minutes the paper will become saturated and sink, leaving the needle or other object on the top of the water. The experiment succeeds better if it is slightly greased by passing between the fingers or wiping with an oily rag, and a novel compass may be made by previously rubbing the needle with a magnet, when it will always turn to a north and south direction.

Making Soft Wood Hard.

In England hard wood is made out of soft wood by the compression of the latter. For carrying out this process is employed a powerful hydraulic press, consisting of a strong cast iron top and bottom, with four steel columns and steel cylinder, with a large ram. In the center of this ram is fitted a smaller ram, fitting into a die, which is placed on the top of the large ram. The wood is put into this die and a pressure of fourteen tons per square inch is applied. The top pressure block, which fits the die, is then removed; and the small ram, rising, pushes the wood out at the top of the die. The London Engineer claims that the wood thus treated is made very dense and uniform and so close grained that it is capable of taking a very high polish.

Underground Wires.

Mr. R. S. Cully, the author of a handbook of telegraphy, says that more than thirty years ago underground wires were tried in England; one system running along the London and Northwestern railway from London to Manchester, Liverpool and Leeds, another along the high road from London to Carlisle. Neither worked more than five years, although constructed with the greatest care and at much expense. The method adopted in Germany is to form a complete cable, just as for submarine work, with a sheath of galvanized steel wire, and to coat it with bitumen while laying it in a deep trench. The cost is great, but so is that of the annually recurring breakdown of overhead lines.

Vaccination Against Yellow Fever.

Six thousand five hundred and thirty four persons submitted themselves to protective vaccination against yellow fever in Rio Janeiro in 1885–86. During these two years, according to statements made by Freire and others to the Academy of Science, 1,675 persons have died from yellow fever, and of that number 1,667 were unvaccinated, eight only of those who had received the treatment having died. These gentlemen state that, taking as the basis of their calculation the population exposed to the contagion, the percentage of deaths for the whole number was 1 per cent., whereas for those who had been subjected to preventive inoculations it was only 1 per 1,000.

Novelty in the Medical World.

Popular Science News announces as the latest novelty in the medical world the employment of enemeta of sulphuretted hydrogen and carbonic dioxide gases as a cure for consumption. Many prominent physicians have testified to the immediate improvement of consumptive patients under the treatment. There seems to be no philosophical basis for this very peculiar and roundabout method of treating an affection of the lungs, and the strongest point in its favor is the high standing of the physicians who claim to have used it with success.

Foreign and Native Trees.

Professor Sargent, director of the Arnold Arboretum, of Harvard college, estimates that five foreign trees are planted in New England to one native. Yet, of all foreign trees introduced into America, the willow alone, he thinks, has qualities not possessed in a greater degree by some native. The European oak and the Scotch, Austrian and Corsican pines all die at about the time when they should be in their prime, and the Norway spruce, at a corresponding age, is decrepit and unsightly.

A Safeguard Against Fire.

It is a common practice in France to coat the beams, the joists and the under side of the flooring of buildings with a thick coating of lime wash as a preventive against fire. It is a preventive of prime ignition, although it will not check a fire when once under headway.

THE CURIOSITY SHOP.

The Currents of the Ocean and Their Relations to Each Other.

All the currents of the ocean seem to form a connected system which has been compared to the circulation of the blood. They are principally caused by differences of temperature and prevalent winds. Warm water rises, cold water sinks. At the equator there is a continual flow of expanded, rising water toward the poles. At the poles there is a constant sinking of contracted or cooled water, which flows an undercurrent toward the equator, the water of the equator moving on the surface to supply its place. This motion is modified by the shape of coasts or prevalent winds, forming the different ocean currents.

Occupation of Authors in 1850.

In the preface to Harper's Magazine, established in June, 1850, is given the whereabouts of some prominent authors at that date, showing their connection with periodicals and newspapers at that time. Here is a quotation:

"Lamartine has just become the editor of a newspaper. Dickens has just established a weekly journal of his own, through which he is giving to the world some of the most exquisite and delightful creations that ever came from his magic pen. Alison writes constantly for Blackwood. Lever is enlisted in The Dublin University Magazine. Bulwer and Croly publish their greatest and most brilliant novels first in the pages of the monthly magazines of England and Scotland. Macaulay has enriched The Edinburgh Review with volumes of the most magnificent productions of English literature."

The Prolific Sparrow.

Some thirty years ago the inch worm became such a nuisance, especially in the parks of large cities, that a gentleman living in Brooklyn sent for a pair of English sparrows from which to raise a progeny for the destruction of the worms. This pair was liberated on Columbia heights. Another pair were placed in Madison square, New York, and afterward large numbers were brought over. They have spread all over the country in such numbers that it is now questionable which would be preferable, the sparrows or the inch worm.

Naval Flags.

Each of the higher grade of officers of the United States navy has a flag, from the secretary of the navy to commodore inclusive. The secretary's flag is a blue field with a white star in each of the four corners and a white anchor in the center. An admiral, vice admiral and rear admiral each has a flag with a blue field, and for admiral four white stars, vice-admiral three white stars, and rear admiral two white stars, the latter being on a red, white or blue field. A commodore's pennant is one white star on a red, white or blue field.

Poe and Longfellow.

They are undoubtedly the two most noted American poets. Poe had more of poetic genius than any of his countrymen. Longfellow is one of the most popular poets of any country. There is something healthful and soothing and comforting in his works, which accounts for their popularity rather than brilliant poetic inspiration. Poe wrote but little. Longfellow wrote a great deal, and his works have a large sale, not only in America, but abroad.

Chinese in America.

In 1880 there were 105,465 Chinese in this country. The immigration from China was in 1880 7,000; in 1881, 20,000; in 1882, 35,000. Then legislative action came, in 1883, to check the tide. In that year the number fell to 381 and in 1884 to 84. It is estimated that nearly one-half of those who come go back. With fortunes of from $500 to $1,000 each these people can live in China in comparative comfort on the income of their savings.

Lunar Rainbow.

A rainbow produced by moonlight is a very rare phenomenon. A solar rainbow is produced by the direct light of the sun on drops of water, each drop breaking up the rays into the primary colors. The lunar bow is caused by the moonlight (the sun's reflected light) acting in the same way; but it is not sufficiently powerful, except in very rare instances, to show anything more than a gleam of pale yellow light.

A Gentleman's Card.

If a man have an honorary title or rank, he never permits its appearance upon his card. According to social etiquette, he leaves all admissions of such fact to his fellow citizens. If, however, he have a professional, naval or military title, it is etiquette to order it engraved before his name instead of Mr., because it is an explanation or admission which is considered candid and perhaps needful.

A Graceful Habit.

The French have a graceful habit of placing cushions under the feet of a seated guest. This, says The Art Interchange, if introduced here, would not only contribute toward the sum of comfort, but would add something of charm of manner by reason of the easier disposition of the person. We are all more agreeable and have more natural grace when we are comfortable.

The Honeymoon.

The word honeymoon, or first month of married life, is said to be derived from the ancient Teutons. They were accustomed to drink for thirty days after marriage a kind wine made from honey. Hence the words honey and moon, or the period from one new moon to another, have been handed down to indicate the blissful period spent by a bride and groom immediately after marriage.

Wagner's School of Music.

Wagner's theory is that the highest end of musical sounds is to represent poetry, and that without some such aim, or as merely instrumental, music is without soul. In his operas he represents the acts and emotions in the sounds themselves, leaving out what is called melody. The style is recitative, and the whole abounds with harmony and instrumentation.

Nearest to the South Pole.

Sir James Ross, in command of two expeditionary vessels, the Erebus and Terror, reached a point nearer the South Pole than any other man before or since. On Feb. 23, 1842, he reached latitude south 78 degs. and 11 mins. on a large island, which he named Victoria's Land. He was only 11 degs. and 49 mins. from the pole.

Reducing Flesh.

The Banting system for reducing the flesh is to abstain from the use of fat, butter, milk, cream, bread, potatoes and sugar, or their use in extreme moderation. Persons who have thus reduced flesh, are not apt to have a strong, hearty look. The best method for reducing fat, where it can be adopted, is exercise.

Wives of Presidents.

Mrs. Hayes, the wife of ex-President Hayes, resides at Fremont, O.; Mrs. Polk, the widow of James K. Polk, at Nashville, Tenn.; Mrs. Grant, the widow of U. S. Grant, at New York; Mrs. Garfield, widow of James A. Garfield, at Cleveland, O. These are the only wives of presidents living.